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Original Research Article

Quality of Life of Households Engaged in the Oyster Mushroom Project in Maseru

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Abstract

Quality of life (QOL) is the holistic analysis of human life experiences and can be assessed in terms of psychological well-being, physical health, economic prosperity and social connectedness. This study sought to describe the QOL in terms of living conditions of households engaged in the Oyster mushroom project (HOMP) through the following indicators: household income, access to health services, access to water and access to sanitation. The study adopted a quantitative design and used a question-naire to collect data, which were analysed using the Statistical Package for Social Sciences (SPSS). The findings indicated that household incomes were unsatisfactory as they were low and unstable. However, there was sufficient access to health services since health care centres were available to the households. The HOMP also had good access to water as the majority had water sources in their yards. Furthermore, their access to sanitation was satisfactory as they mainly used pit latrines and piped systems that are connected to the sewer lines located in the yard. Despite the unsatisfactory household incomes, the QOL of the HOMP in relation to access to health services, access to water and access to sanitation was satisfactory.

Keywords: Health, Household income, Water and sanitation, Quality of life

INTRODUCTION

Quality of life (QOL) is the holistic analysis of human life experiences. This term has been used in many disciplines, including: psychology, medicine, economics, environmental science and sociology (Constanza et al., 2007). According to Church (2005), the majority of definitions of QOL attest to its subjective, multi-faceted nature and the difficulty to measure it.

The measurement and assessment of human experience have been a major goal for individuals, communities, researchers and government (Constanza et al., 2008) as they inform the level of QOL. According to Kironji (2007), QOL has been mostly measured economically, using such factors as gross domestic product (GDP), gross national product (GNP) and per capita income (PCI). While these measures are important, they do not emphasize access to resources, which has a substantial contribution in the assessment of people's living conditions, for it reflects the human experience that people prefer.

Despite the lack of a universal way to determine QOL, the different methods used to measure it tend to be similar by their focus on fulfilment of human needs. In this context, QOL is measured by the level of fulfilment of the physical, economic, health and social functioning in individuals' lives. Individuals perceive their relationships and psychological wellbeing according to their own expectations – which are affected by such factors as culture, value systems, goals, stable beliefs and concerns(Kaur, 2013; Constanza et al., 2007).

The Oyster Mushroom Project is one of the initiatives

of the Lesotho government that sought to improve the QOL of the nation by sustainably enhancing livelihoods through a supply of mushroom protein food to reduce malnutrition and protein deficiency among extremely poor people (Ministry of Agriculture and Food Security, 2018). This study described the QOL in terms of living conditions of households involved in the Oyster Mushroom Project (HOMP).Household income, access to health services, access to water and sanitation were chosen as indicators of QOL in this study (Radimer et al.,1990).

METHODOLOGY

This study was cross-sectional and used a quantitative design, with a questionnaire as the measuring instrument. The questionnaire was reviewed by four experts to ensure its internal validity and their views and suggestions incorporated into the revised final version. The instrument was checked for reliability by subjecting it to 10 respondents. Cronbach's Alpha formula was used to determine the coefficient of reliability, which was 0.88.

Prior to the survey, ethical clearance was obtained from the University of the Free State Research Ethics Committee (UFS-HSD2018/1171). The respondents were requested to sign consent letters if they agreed to participate in the study. The questionnaire was self-administered with assistance of a fieldworker who was trained for this task by the researcher.

The study was a census that targeted all 50 household members who were engaged in the Oyster Mushroom Project in Maseru. A list of these and their contacts were provided by the Ministry of Agriculture and Food Security. However, only 33 of these were used in the study as 10 were used in the pilot phase and seven could not be reached. Data were collected during August 2018 at the respondents' homes and workplaces.

The Statistical Package for Social Sciences (SPSS) version 25.0 computer programme was used to analyse data. Descriptive statistics were used to organise and summarise data to enable interpretation. The descriptive statistics involved frequencies, binomial and Chi-square tests to aid the interpretation of the findings. Statistical significance was tested at 5%; that is, p-values at 5% and below were interpreted as statistically significant and those above 5% as statistically insignificant.

FINDINGS AND DISCUSSION

The respondents were all above 21 years of age, with the majority (72.8%) being over 40 years and 60.6% married, with one-third being male and two-thirds female (Table 1). The findings in Table 2 show that 12.1% of the HOMP were admitted in hospital to stay overnight. The responses on visitation to hospital to stay overnight were statistically significant (p=0.05). While the findings merely indicate that hospitals are available when required, there are health benefits of Oyster mushrooms that could be suggested as reasons for the low admissions to hospital. Valverde et al. (2015) indicated that a large variety of mushrooms have been traditionally utilised by different cultures for health purposes, including prevention and treatment of diseases. Oyster mushrooms are suitable for people with obesity, high blood pressure and diabetes, as they contain low starch, sodium/potassium ratio, fat and calorific value (Thakur, 2014).

It is also evident that 72.7% of HOMP received care from health services without staying overnight, which is evidence of better QOL. These findings are complimented by those from a previous study that indicated that 78.8% of Basotho spent money on health-related items (Government of Lesotho, 2013). The responses on receiving health care from health services were statistically significant (p-value=0.01). The findings are in line with the observation that Lesotho is faced with an increasing double burden of disease – a high prevalence of non-communicable and communicable diseases, resulting in high percentages of visitations to the hospital and health expenses (Government of Lesotho, 2013).

The findings also indicate that none of the HOMP had health insurance, implying reliance largely on public health services. Ministry of Health and ICF International (2016) stated that 98.0% of both women and men, aged 15-49 in Lesotho, do not have health insurance. Table 6 confirms that 51.2% of the HOMP had income of M3000.00 or less, that may not allow for health insurance payments. These findings emphasise the importance of healthy lifestyles to combat disease.

It is evident from the findings (Table 3) that households involved in Oyster mushroom production spent money mostly on health items for arthritis, which is considered as appropriate (Mugomeri et al., 2015; Bosu et al., 2019). The 9.1% of the respondents that spent money on items for flu might be a result of the winter season since the data were collected in August 2018.

The assessment of QOL in relation to water and sanitation was made in terms of facilities that households used for sanitation, sources of water and consistency in water access. The findings on water access (Table 4) revealed that 97% of the HOMP had their water sources in their yards and concur with the observation that most (70%) urban households in Lesotho have piped water in their own dwelling or yard (Ministry of Health and ICF International, 2016). The responses in relation to the location of the water source are significant.

As a result of having a water source in their own yard, 84.8% of HOMP took an average of 1-5 minutes to get to the water source and back, which is adherent to recommendations by the World Health Organisation (WHO, 2011). The findings indicate a significant level of QOL in relation to access to the water source (p-value=0.035).

Table 1. Respondents' demographic information (HOMP n=33)

Age	**Frequency**	
	%	**n**
16 – 20	0.0%	0
21 – 25	3.0%	1
26 – 30	12.1%	4
31 – 35	3.0%	1
36 – 40	9.1%	3
41 – 50	15.2%	5
51 – 60	27.3%	9
61 or older	30.3%	10
Gender		
Male	33.3%	11
Female	66.7%	22
Marital status		
Married	60.6%	20
Widowed	3.0%	1
Separated/divorced	3.0%	1
Never married/ single	33.3%	11
Living with partner	0.0%	0

Table 2. Health indicators (n=33)

	Frequency		
Selected health indicators	**Yes**	**n**	**p - value**
Visitation to the hospital to stay overnight	12.1%	4	0.05*
Visits to health care centres without staying over night	72.7%	24	0.01*
Health Insurance	0.0%	0	0.00*
Money spent on health-related items	78.8%	26	0.01*

*Significant at the 5% level

Table 3. Reasons for buying health-related items (n=33)

Reason	**Frequency**	
	%	**n**
Arthritis	36.4%	12
Influenza	9.1%	3
Pain	9.1%	3
High blood pressure	24.2%	8

Table 4. Water availability and attributes (n=33)

Location of water source	**Frequency**	
	%	**n**
In own dwelling	3.0%	1
In own yard/plot	97.0%	32
Elsewhere	0.0%	0
p – value	0.05*	
Length of time taken to go to the source of water on foot		
1-5 minutes	84.8%	28
6-10 minutes	15.1%	5
11-15minutes	0.0%	0
p – value	0.035*	
The safety of water as perceived by respondent		
Yes	60.6%	20
No	39.4%	13
p – value	0.296	

Table 4. Continue

Ways to make water safe to drink	Frequency	
Boiling	54.3%	18
Filtration	6.3%	3
None	39.4%	12
p –value	0.05*	

*Significant at the 5% level.

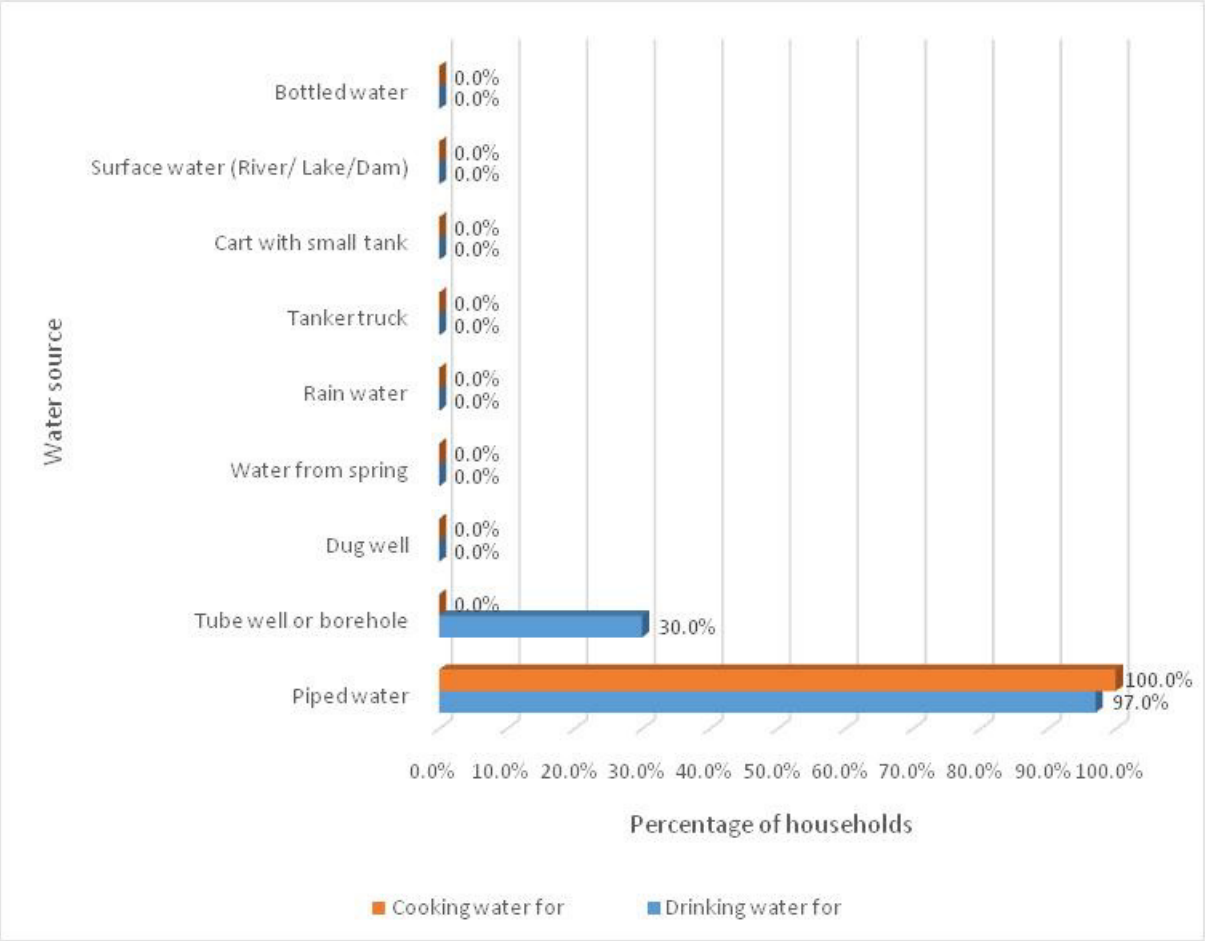

Figure 1. Main source of drinking water for members of the household

The findings also show that 60.6% of the HOMP had ways of making water safe to drink. This is contrary to a report that most(87%) households in Lesotho do not treat their water prior to drinking and that only 21.0% of the households in urban areas boil their water (Ministry of Health and ICF International, 2016). According to the findings, 54.3% of HOMP boiled their water to make it safe, which is contrary to the report that only 1 in 10 households boil their water.

Furthermore, 60.6% of respondents considered their water to be safe, a reflection that the Water and Sewerage Company (WASCO) provides safe drinking water to approximately 50,000 post-paid connections, plus approximately 400 public standpipes (WASA, 2010). However, 52% of respondents did not boil their water, despite doubting the cleanliness of their water source, implying that they use the water without taking any safety measures (Workman, 2019).

The majority of the HOMP had piped water as their main source for drinking (97%) and cooking (100%) (Figure 1). The responses are statistically significant (0.05) and not surprising as Ministry of Health & ICF International (2016) indicated that almost all urban households (97%) have access to an improved source of

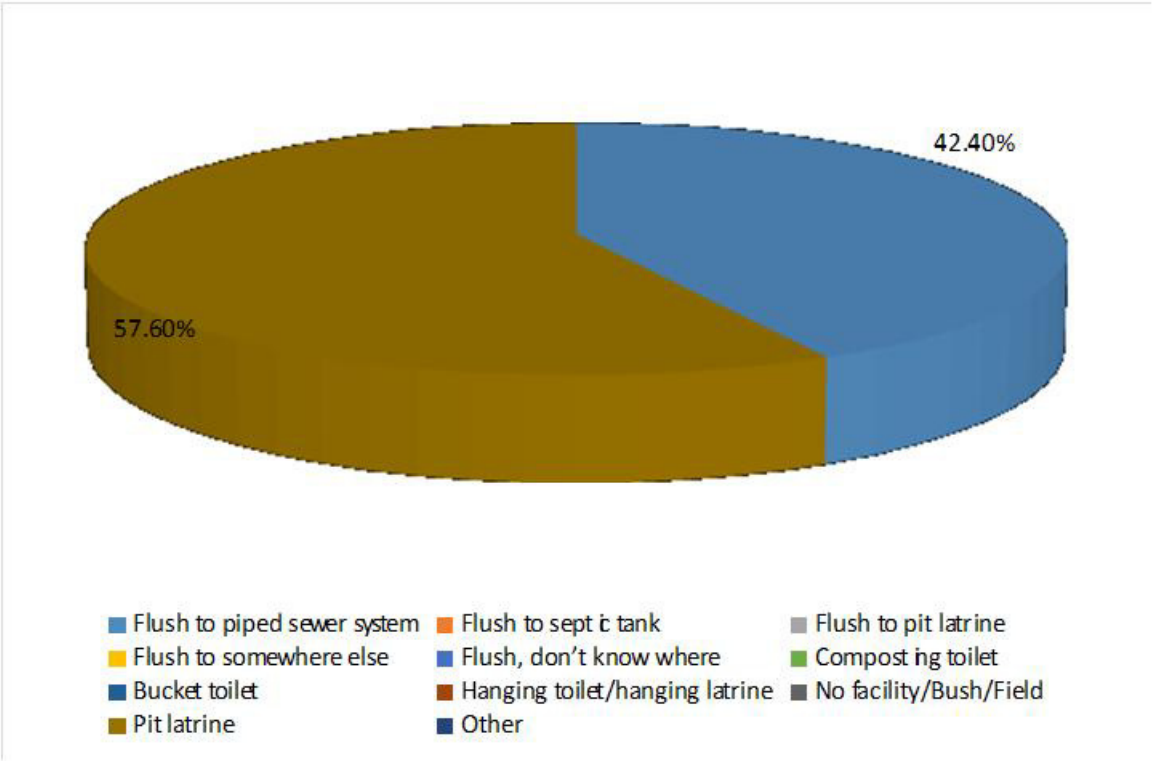

Figure 2. Type of toilet

drinking water. Such sources offer protection against outside contamination to ensure that water is safe to drink (WHO and UNICEF, 2017).

With regard to sanitation, the findings in Figure 2 show that 42.4% of the HOMP were connected to a sewer system, whereas more than half (57.6%) used a pit latrine. The findings generally reveal that households had improved facilities, which is a good indicator of QOL. In fact, even as far back as 1998, pit latrines were considered adequate basic sanitation facilities (Sowman and Urquhart, 1998). Improved sanitation facilities protect people from coming into contact with human waste and, consequently, reduce transmission of cholera, typhoid and other diseases (FAO et al., 2018). The findings also indicate that HOMP had access to safe water and sanitation, as expected (Ministry of Health and ICF International, 2016). Improved living conditions, including toilet facilities, could be attributed to access to supplementary income (Table 7).

According to the findings, only 15.2% of the HOMP shared their toilet facilities with other households, which is an improvement from what Ministry of Health and ICF International (2016) reported as 53.0% of households in urban areas. This suggests that the situation in Lesotho has improved since 2014 and respondents experienced better QOL. The findings were significant improvement ($p = 0.05$) in terms of access to safe and hygienic toilet facilities. The households that share their toilet facilities did so with 6-10 other households.

The study sought to determine the levels of household income, sources and stability since income is one of the important factors contributing to QOL (Roberts, 1998; Savige et al., 2007). The findings in Table 6 indicate that the incomes of 69.4% of households were below M9000 per month, with more than half (51.2%) having incomes that were below M3000. Only 21.3% of HOMP earned more than M15000, possibly as a result of supplementary income associated with the Oyster Mushroom Project. Some findings indicate that the mean household income is M700 per month (Crush, 2016).

As seen from Table 7, employment was cited as main source of income for 57.6% of households, which differs from the findings by Mutema et al. (2019) that most of the mushroom producers (73.3%) in Harare were unemployed as compared to the employed (26.7%). The p-values in Table 8 indicate significance in the responses related to levels, sources, stability and changes in income. The findings reflect a better level of employment than was the case in 2016 when only 48.7% of adults in Lesotho were employed, with 27.6% working full-time and 21.1 % casual or part-time (Crush, 2016). Only 3% of the HOMP indicated that mushroom production was their main source of income, with their income bracket of M3000 or less implying that mushroom production was only a means of supplementary income. Mushroom production, therefore, can strengthen livelihood assets, which cannot only reduce vulnerability to shocks, but enhance the capacity of individuals and communities to

Table 5. Status of toilet facilities (n=33)

Sharing a toilet with other households	**Frequency**	
	%	**n**
Yes	15.2%	5
No	84.8%	28
p – value	0.05*	
Number of households who use the toilet facility		
1 – 5	0.0%	0
6 – 10	15.2%	5
Not sharing	84.8%	28
p – value	0.062	
Location of the toilet facility		
In the yard	57.6%	19
In own dwelling	42.4%	14
p – value	1.00	

*Significant at the 5% level.

Table 6. Household income distribution among HOMP (n=33)

Income per month	**Frequency**	
	%	**n**
M1 - M3000	51.2%	17
M3001- M6000	12.1%	4
M6001- M9000	6.1%.	2
M9001 - M12000	9.1%	3
M12001 - M15000	0.0%	0
M15001 - M18000	6.1%	2
M18001 and more	15.2%	5

Table 7. Household income (n=33)

Income indicators	**Frequency**	
The sources of income of the households	**%**	**n**
Employment	57.6%	19
Self-Employment	33.3%	11
Mushroom production	3.0%	1
Pension	6.1%	2
Stability of the source of income		
Temporary/ casual	12.1%	4
Seasonal	45.5%	15
Stable	39.4%	13
Remittances	3.0%	1
Changes in the income of the household in the past 12 months		
Yes	69.7%	23
No	30.3%	10
Reasons for the change in income		
Retrenchment	6.1%	2
Retirement	9.1%	3
Death	12.1%	4
Could not work because of ill health	21.1%	7
Oyster mushroom production plant closed	21.1%	7
No change	30.3%	10

Table 8. Statistical significance of the income indicators

Income indicators	p - value
Income levels	0.0*
The sources of income of the households	0.0*
Frequency of the stability of the source of income	0.001*
Frequency in the changes in the income of the household in the past 12 months	0.0*
Reasons for the change in income	0.42

*Significant at the 5% level

act upon other economic opportunities and improve their QOL (Marshall and Nair, 2009).

The majority (69.7%) of HOMP had mostly negative changes in their income in the past 12 months (Table 7). The HOMP's livelihoods were negatively affected by seasonal incomes as only 45% of them had seasonal incomes and 12.1% had temporary jobs. Such households might have been experiencing poor QOL since there have been periods when their incomes have been negatively affected.

The findings also revealed that the changes in the income of the HOMP were mostly caused by the closing of the Oyster mushroom production plant and inability to work arising from ill-health or death of the breadwinner. The mushroom project was closed from March 2016 to November 2017 because of a lack of government funds to produce spawns for the farmers (Ministry of Agriculture and Food Security, 2018). The households that were affected by the closure, amounting to 21.1%, had income of M3000 or less. The inability to work, because of ill-health might be a result of the average age of respondents being 51-60 years when health vulnerability is likely. Besides, at the age of 50 and older, it is difficult to find new employment and involvement in Oyster mushroom production might be the best option.

CONCLUSIONS

The following conclusions have been drawn from this study:

1. The HOMP have poor QOL in the context of household incomes which are low and unstable, leading to unstable livelihoods. The supplementary income from the Oyster Mushroom Project contributes towards livelihood diversification, which maybe a way of coping under stressful conditions and enhancing QOL.
2. The HOMP have good QOL in relation to access to health. The availability of health care facilities implies that illnesses can be attended to, thereby ensuring good health that is needed for people to participate in different life activities. However, households are dependent on public health facilities as none of the HOMP have medical insurance schemes, most likely because most of them have low incomes. Consequently, most households spend part of their income on health-related matters, particularly treatment of arthritis, high blood pressure, influenza and pain. It is evident that income from the mushroom project can augment financial resources for acquiring health-related items.
3. The HOMP have good QOL in the context of access to water, with the majority having water sources in their yards and accessing water within less than five minutes. Less time spent on collecting water can translate into more time available for income generation activities which can indirectly enhance QOL. The HOMP mainly use improved water sources, as they have access to piped water for drinking and cooking which contributes to good health.
4. The HOMP have good QOL in relation to sanitation facilities, as they mainly use pit latrines and piped systems that are connected to sewer lines located in the yard. These are classified as improved sanitation facilities as they restrict contact with human waste, consequently reducing the transmission of typhoid, cholera and other diseases. The majority of the households do not share toilet facilities, and this is an indicator of good QOL, as it suggests that they have safe and hygienic toilet facilities.

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